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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/316,754	05/21/1999	SHIA-SAN GONG	AT9-98-884	8260

7590 12/06/2002

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EXAMINER

NEWGEN, LILIAN

ART UNIT

PAPER NUMBER

2127

DATE MAILED: 12/06/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/316,754	GONG ET AL. <i>W</i>	
	Examiner	Art Unit	
	Lilian Newgen	2127	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 May 1999.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) 9-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☒ Claim(s) 1 is/are objected to.
- 8) ☐ Claim(s) 1-23 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on 21 May 1999 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>4</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action in response to application filed on May 21, 1999. Claims 1 – 8 are presented for examination. The applicants' attorney has elected claims 1 – 8 with traverse.
2. Claims 9 - 23 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected inventions, there being no allowable generic or linking claim.

Restrictions under 35 U.S.C. 121

3. Restriction to one of the following inventions is required under 35 U.S.C. 121:

Group I, drawn to claims 1 – 8, which claim a method for storing data that has some entries with multiple value attributes ..., profiling the data ..., and storing the data optimally ..., which classified in 707, subclass 100.

Group II, drawn to claims 9 – 14, which claim a method for storing data that has some entries with multiple value attributes ..., profiling the data ..., storing the information optimally ..., and keeping pointers for future operations on the data ..., which classified in 707, subclass 103Z.

Group III, drawn to claims 15 – 18, and 23, which claim a database schema for a directory service having a backing store ..., and the second table is a per attribute table, ..., which classified in 707, subclass 509.

Group IV, drawn to claims 19 – 20, and 21 – 22, which claim a directory service having a directory organized as a naming hierarchy, the hierarchy including a plurality of entries each represented by a unique identifier ..., which classified in 707, subclass 514.

Inventions I - IV are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention I has separate utility such as lacking keeping pointers for future operations on the data. Invention II has separate utility such as lacking a database schema for a directory service having a backing store ..., and the second table is a per attribute table. Invention III has separate utility such as lacking a directory service having a directory organized as a naming hierarchy, the hierarchy including a plurality of entries each represented by a unique identifier. See MPEP § 806.05(d).

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

During a telephone conversation with Berry Newberger on November 20, 2002 a provisional election was made with traverse to prosecute the invention of group, claims 1 – 8. Affirmation of this election must be made by applicant in replying to this Office action. Claims 9 – 23 withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Because these inventions are distinct for the reasons given above and the search required for one group is not required for other group, restriction for examination purposes as indicated is proper.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Drawings

7. This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

Claim Objections

8. Claim 1 is objected to because of the following informalities:

The phrase "...the data should be **in stored in** an attribute table" is not clear. The Examiner suggests that the claim be corrected to read: "... the data should be stored in an attribute table...". Appropriate correction is required.

Claim Rejections - 35 USC § 112

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 4, and 5 – 6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4 defines overflow table as an attribute table and depends on claim 1, which claims the step of profiling the data to determine whether the data should be in stored in an attribute table, or alternatively, in a merged table and an overflow table;...

The claim not only did not further limit claim 1, but also alters the scope of the invention as claimed in claim 1. Appropriate clarification is required.

Similarly, **claim 6** limits claim 1 to parse the data in the profiling step of claim 1 to identify entries with single value attributes. This excludes the possibility of entries with multi-value attributes, to be stored in an overflow table that was claimed in claim 1. Unless, applicants appropriately indicate that as entries are identified as single value attributes, they can be stored in merged table. Appropriate clarification is required in order to overcome this type of rejection.

Claim 5 claims the method of claim 1, wherein a majority of the data ... and a small set of ... is considered vague and indefinite because these terms do not indicate a range of data rendering a clear metes and bounds of the claim. Appropriate clarification is required to overcome this type of rejection.

10. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

11. Claims 2 – 3 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 2 claims the method cited in claim 1, wherein the entries with single value attributes are stored in the merged table.

“Merged table” is merely a naming convention, which is used to store entries with single value attributes. The specification (page 16, lines 6 – 8) did not further illustrate how one skilled in the art could make use of the invention in terms of how it solves the problem as per attribute table does not perform well for certain operations (specification: page 12, line 23 – page 13, line 3).

Likewise, **claim 3** is rejected for the same rational in which “overflow table” is another name describing multiple value attributes.

Appropriate descriptions of these method steps are required in order to overcome this type of rejection.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 1 – 4, and 6 - 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morgenstern (US Pat 5,970,490) and in view of Gioielli et al. (U.S. Patent No. 5,485,610).

Regarding **claim 1**, Morgenstern discloses a method for storing data that has at least some entries with multiple value attributes, comprising the steps of:

profiling the data (in other words, recognizing/parsing module, col. 8, lines 38 – 47, to identify attribute types, col. 8, lines 29 – 37) to determine whether the data should be stored in a merged table (single value table: col. 32, lines 43 – 45) and/or an overflow table (multiple value table: col. 38, lines 50 – 55); and

storing the data in the profiling step (col. 8, lines 32 – 34 discloses the storing step in the parsing step).

Though the reference of Morgenstern did not specifically disclose that storing the data optimally based on the profiling step. Nevertheless, Gioielli et al. discloses the procedure that informs the user as how the storage of the data entities has been optimized (col. 15, lines 13 – 28). Therefore, it would have been obvious to one having the ordinary skill in the art, at the time of the invention, to incorporate this feature to Morgenstern's invention to optimizes the physical design of the database (col. 15, lines 3 – 12).

Regarding **claim 2**, Morgenstern discloses the method as described in claim 1 wherein the entries with single value attributes are stored in the merged table (relation tables with one data value, col. 1, lines 47 – 52).

Regarding **claim 3**, Morgenstern discloses the method as described in claim 1 wherein the entries with multiple value attributes are store in the overflow table (multiple attribute value, col. 38, lines 47 – 57, multiple values, col. 40, lines 27 - 28).

Regarding **claim 4**, Morgenstern discloses the method as described in claim 1 wherein the overflow table is an attribute table (multiple attribute value, col. 38, lines 47 – 57).

Regarding **claim 6**, Morgenstern discloses the method as described in claim 1, wherein the profiling step parses the data to identify entries with single value attributes (parser – recognize generator, col. 8, lines 39 – 42, single value attribute, col. 32, lines 43 – 45, being merged into sequence, col. 19, lines 40 – 45).

Regarding **claim 7**, Morgenstern discloses the method as described in claim 1 wherein the profiling step parses the data to identify given operations that are performed on the data once stored (data access function, parser, parser object instances, col. 26, line 53 – col. 27, line 18).

Regarding **claim 8**, Morgenstern discloses the method as described in claim 1 wherein the data is stored in a relational database backing store (relational database, col. 24, lines 45 – 49).

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lilian Newgen whose telephone number is (703) 305-7864.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

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Lilian Newgen
Examiner
Art Unit 2127

Ln
December 2, 2002

A handwritten signature in black ink, appearing to read 'JAF', is written over the printed name and title.

JOHN A. FOLLANSBEE
PRIMARY EXAMINER